

CLAIMS

1. A biomolecule bead-containing tube containing a biomolecule bead array in which biomolecule beads consisting of a spherical bead and a specific biomolecule species immobilized thereon are arranged in a tubular container made of a material transmitting a light having a specific wavelength, wherein a spherical mark bead made of a material optically distinguishable from the material constituting the spherical bead of said biomolecule bead is inserted in a predetermined order between specific biomolecule beads in the biomolecule bead array.
2. A biomolecule bead-containing tube according to claim 1, wherein the mark beads are arranged corresponding to an identification code indicating identification data.
3. A biomolecule bead-containing tube according to claim 1, having a first region where a number of the biomolecule beads is larger than a number of the mark beads, and a second region where a number of the mark beads is larger than a number of the biomolecule beads.
4. A biomolecule bead-containing tube according to claim 3, wherein at least the mark beads are arranged in the second region corresponding to an identification code indicating

identification data.

5. A biomolecule bead-containing tube according to claim 2 or 4, wherein the identification data comprise an identification
5 number for the biomolecule beads-containing tube.

6. A biomolecule bead-containing tube according to claim 3, wherein the mark beads are arranged in the first region corresponding to an identification code indicating
10 identification data.

7. A reproducer reading out data recorded in a biomolecule bead-containing tube according to claim 2 by irradiating the biomolecule bead-containing tube with a light and detecting a
15 transmitted light or a reflected light from at least a mark bead.

8. A reproducer according to claim 7, reading out the data; and obtaining information of a DNA or a protein immobilized on the biomolecule beads in the biomolecule bead-containing tube by
20 irradiating the biomolecule beads with a light and observing fluorescence from the biomolecule beads.

9. A reproducer according to claim 7 or 8, obtaining identification information as the data.

25

10. A reproducer according to claim 9, obtaining arrangement information for the biomolecule beads in the biomolecule bead-containing tube based on the identification information obtained from the biomolecule bead-containing tube.

5

11. A reproducer according to claim 10, obtaining information of a DNA or a protein immobilized on the biomolecule beads in the biomolecule bead-containing tube based on the arrangement information for the biomolecule beads obtained based on the identification information.

10

12. A reproducer according to claim 8 or 11, diagnosing a disease from the information of a DNA or a protein obtained based on the identification information.

15